

1. For Sturm-Liouville problems to be of this type, the two boundary conditions must be linearly independent. This word also describes points at which all coefficient functions in a standard form differential equation are analytic. In both of those definitions, this word contrasts with singular, as it also does to describe matrices that have inverses. All vertices have the same degree in this sort of graph. This word also describes expressions that, like grammars, can define the languages of finite automata; those expressions are often used in string matching. For 10 points, identify this word that also applies to polygons in which the side lengths and angle measures are all equal.

ANSWER: regular

003-11-30-05102

2. The last ruler of one branch of these people fled battle after watching his brother Tzazo cut down at Tricamarum. Tribes of these people included the Hasdingi and the Silingi. Belisarius's first great campaign was against a kingdom of these people led by Gelimer. These believers in Arianism persecuted other Christians after sacking Carthage and making it the capital of their North African kingdom. A letter sent by Licinia Eudoxia requesting assistance from their leader Gaiseric led to the 455 sack of Rome. For 10 points, identify this Germanic tribe whose name has become synonymous with destruction of property.

ANSWER: Vandals

015-11-30-05103

3. One piece of this type is only forty six bars long and was written for Anton Stoll while its composer was working on *The Magic Flute*. The musical analogue of anthems written by English composers, these pieces include Mozart's *Ave verum corpus*, as well as a piece celebrating a gift of a golden rose for the high altar of Santa Maria del Fiore. That last great isorhythmic one is called *Nuper rosarum flores*. The "grande" and "petit" varieties of these pieces were mastered by Jean-Baptiste Lully, who included soloists in them. First composed by the Notre Dame school and later by Guillames de Machaut and Dufay, they typically consisted of a discant sung over a cantus firmus. For 10 points, name this typically polyphonic setting of a sacred text, one of the most popular forms of medieval music along with madrigals.

ANSWER: motets

020-11-30-05104

4. In a novel by this author, Ephraim Jekinson scams Moses out of his money and cheats the protagonist out of a horse. That novel ends with George's marriage to Arabella Wilmot and the revelation that Sophia is actually married to Mr. Burchell's alter ego, Squire Thornhill. In one of this author's plays, two men at the Three Pigeons pub are tricked into staying at a mansion that they believe is an inn, causing them to treat the owners like servants. In that play, Hastings and his lover Constance steal some jewels with Tony Lumpkin, and Charles Marlow is wooed by a woman disguised as a barmaid. For 10 points, name this author who created Dr. Primrose and Kate Hardcastle in *The Vicar of Wakefield* and *She Stoops to Conquer*.

ANSWER: Oliver Goldsmith

5. This artist created a model with a scimitar and broken lance which was to be the basis for a never realized fifty-four foot high statute of Mars. This man, along with his patron, helped restore the Etruscan *Chimera d'Arezzo*. He created a marble crucifix for his own tomb but now resides in the Escorial. His portrait work includes a bust of Bindo Altoviti and one of Cosimo I. An antlered stag sticks out above a female nude in his bronze *Nymph of Fontainbleau*. One of his more famous bronze works shows one title figure holding a sword and the head of the other figure. For 10 points, name this sculptor and goldsmith who created a saltcellar for Francis I and *Perseus With the Head of Medusa*.

ANSWER: Benvenuto Cellini

001-11-30-05106

6. Arora's PTAS uses quadtrees to attack a restrict case of this issue, which is the target of the Christofides algorithm. A historical bound on it is given by the Held-Karp algorithm. If the triangle inequality holds, then the restricted case is known as metric; further constraints yield the Euclidean version of this problem. One solution to this problem is the "nearest neighbor" algorithm, though that solution is only optimal in certain cases. An early description of this problem included hypothetical routes through towns in Germany and Switzerland. For 10 points, name this optimization problem in computer science in which a merchant must determine the shortest path that will take him to each city in a route exactly once.

ANSWER: traveling salesman problem

081-11-30-05107

7. Cities lying on this body of water include Bol and N'guigmi. When its water levels are high, its water is diverted through a string of basins called the Soro, and its water is also discharged into the Bodélé Depression. It is partially fed by the Yobe River, but primarily by the Chari River, and it separated into northern and southern basins by the Great Barrier. In the 1960s, there was a proposal to divert the Ubangi River into this lake to maintain its volume. For 10 points, name this shrinking lake which borders Niger, Nigeria, Cameroon, and its namesake country.

ANSWER: Lake Chad

024-11-30-05108

8. One disorder that causes increased levels of this compound results from a mutation in the cMOAT gene, while another is caused by mutations leading to decreased UGT1. Besides Dubin-Johnson, Gilbert, and Rotor's syndrome, inactivating mutations in UDP glucoronosyltransferase lead to accumulation of the unconjugated form of this substance in Crigler-Najjar syndrome. Lab tests usually measure both the direct and indirect versions of this open-chain polypyrrole. Exposing this substance to light transforms it from the ZZ to EE isomer, which is why ultraviolet light is a treatment for the accumulation of this substance in newborns. For 10 points, name this product of heme metabolism, which when elevated causes jaundice.

ANSWER: **bilirubin** [or conjugated, unconjugated, direct or indirect **bilirubin**]

048-11-30-05109

9. In one story by this author, a man reading a book in a green armchair overlooking a park is attacked by a character from his book. He also wrote a story about a brother and a sister abandoning their house and throwing away the key because they are frightened by mysterious noises. This author of "The Continuity of Parks" and "House Taken Over" wrote a story in which the narrator switches places with an animal in the Jardin des Plantes. This author of "Axolotl" also wrote a story whose name literally translates as "The Droolings of the Devil" and which is the basis for Antonioni's film *Blowup*. For 10 points, name this Argentine writer also known for a novel which can be read in two different orders, *Hopscotch*.

ANSWER: Julio Cortazar

10. Supporters of two different men of this name fought at the Battle of Sauchieburn, where the Homes and Hepburns killed the third holder of this name and elevated the fourth. An earlier holder of this name was assassinated by Walter, the Earl of Atholl, and wrote the *Kingis Quair*. The fourth holder of this name allied with France and was thus killed by Thomas Howard, the earl of Surrey, in 1513 after fighting English longbills at Flodden Field. The sixth king of this name, through his descent from the fourth's marriage to Margaret Tudor, added a new kingdom to his realms. For 10 points, identify this common name for kings of Scotland, one of whom became England's first Stuart monarch.

ANSWER: James

019-11-30-05111

11. Svensson proposed a "foolproof" way of dealing with this issue, which is also addressed by Gesell's carry tax. Pigou argued that a low wage rate and the real balance effect could counteract this situation. This situation is represented as an intersection of the IS curve with a flat LM curve. Money and bonds are essentially substitutes when this situation occurs. Traditionally defined as a situation in which the demand for money is infinitely elastic, it occurred in Japan in the 1990s when interest rates dropped almost to zero. For 10 points, name these situations where monetary policies do little to change demand and growth.

ANSWER: liquidity trap

001-11-30-05112

12. This artist showed a group of individuals holding snakes in *The Brazen Serpent*, while some of his earliest works are portraits of Margareta and Frans Synders. This artist wears a gold medal he was presented with while he touches a petal in his *Self Portrait with a Sunflower*. He painted many portraits of Henrietta Maria, along with a triple portrait of her husband in which the two outer personages stare at the central subject. Another of his works shows a ruler standing on the left at the hunt with a walking stick, red pants, and a black hat while his servant stands to the right attending to his horse. For 10 points, name this 17th century Flemish artist known for his portraits of the English king Charles I.

ANSWER: Anthony van **Dyck**

064-11-30-05113

13. This man was once forced to spend a night with Echidna in order to retrieve his horses. In another story, he was robbed and mocked by the monkey-like Cercopes. In a wrestling match, he broke off the horn of the river-god Achelous. He rescued princess Hesione from a sea-monster, and along with Telamon, he organized an expedition to sack Troy. During one feat, he lost a toe to a gigantic crab, but triumphed with the help of his nephew Iolaus. This hero used noise makers to slay the Stymphalian Birds, clubbed the Nemean lion, and killed the Hydra. For 10 points, name this Greek hero who completed twelve labors.

ANSWER: **Heracles** [or **Hercules**]

080-11-30-05114

14. In one episode in this novel, the password "Zeno of Elia" is meant to be used in a clandestine suitcase exchange at a train station. One character in this novel visits the Director General of the State Police Archives while infiltrating the totalitarian nation of Ircania as a double agent for Ataguitania. One antagonist in this novel is the translator Ermes Marana, and another character wants to create a machine that condenses literature into a series of numbers. Lotaria's sister Ludmilla becomes the protagonist's love interest after a defective mystery story becomes confused with the novel *Outside the Town of Malbork*. For 10 points, name this novel written in second person in which The Reader tries to finish a series of ten novels, a work by Italo Calvino.

ANSWER: <u>If on a Winter's Night a Traveller</u> [or <u>Se una Notte D'inverno un Viaggiatore</u>]

15. This thinker called the U.S. Declaration of Independence a "hodgepodge of confusion" in his "Short Review of the Declaration." He outlined seven criteria, including intensity, duration, and certainty, for the desirability of a given action. He rejected the idea of natural rights, since rights themselves can only be granted by the law. This man attacked another author's "antipathy to reform" of the laws in a critique of William Blackstone's *Commentaries*. He formulated the "felicific calculus" and wrote the *Fragment on Government*, in addition to championing the "greatest happiness principle." For 10 points, name this founder of Utilitarianism.

ANSWER: Jeremy Bentham

033-11-30-05116

16. This event inspired William Hogan and 500 followers to hijack a Northern Pacific Railway train. Jack London participated in one faction of this event named for "General" Kelly. It was led by Christopher Columbus Jones, Carl Browne, and a Populist sand quarry owner who named his son Legal Tender in response to the Panic of 1893. This "Commonweal of Christ" demanded "Peace on Earth, Goodwill to Men, but Death to Interest on Bonds" in Massillon, Ohio, where they and a hundred followers demanded that the government finance more public works projects. For 10 points, name this 1894 march to Washington, D.C., where its namesake was arrested for trespassing on the Capitol lawn.

ANSWER: **Coxey**'s Army

079-11-30-05117

17. In one scene from this novel, Annixter describes his transformation to his eventual wife Hilma Tree. During that scene, he quotes Vanamee who himself had been violently shaken by the death of his lover Angele Varian. Part of this novel is told through the point of view of a poet who wrote "The Toilers" while living on El Rancho de los Muertos. The protagonist's son Lyman is hired as the main lawyer of a group called "The League" who are opposed by the machinations of S. Berhman. Its protagonist, Magnus Derrick, leads a group of ranchers against the growth of the monopolistic railroad. Intended as part of a trilogy with the novels *The Pit* and *The Wolf*, for 10 points, name this novel by Frank Norris.

ANSWER: The Octopus: A Story of California

064-11-30-05118

18. The newspaper *Consultation* was a major organ of this movement. A key action of this group was a revolt in Rezna that led to the restoration of the constitution of 1876. This group's ascent to power was spearheaded by the 3rd Army Corps, whose Liberty Society spurred the rival League of Private Initiative and Decentralization to merge with the Committee of Union and Progress. Ahmed Riza and Prince Sabehedeen led this group, which took de facto control of the government in a 1908 revolution and introduced modernizations to education and women's rights. For 10 points, name this faction that led the Ottoman Empire into World War I and laid the groundwork for the rise of Mustafa Kemal.

ANSWER: **Young Turks** [or **Jonturkler**]

019-11-30-05119

19. This work's theme of righteousness can be seen in a passage which describes how God will give to each person according to what he has done, though it also encourages the title recipients to give their bodies as living sacrifices. This book is better known for its third chapter, which says all have sinned and fallen short of the glory of God, as well as its tenth chapter, which includes a request to confess "Jesus is Lord." It ends with an expression of its author's desire to visit the inhabitants of a city who are this letter's audience, though the author's actual visit ended with his beheading during the reign of Nero. For 10 points, name this epistle written by Paul to the inhabitants of the capital of a namesake Empire led by the Caesars.

ANSWER: Epistle to the **Romans**

20. For a solid-liquid suspension, Ralph Bagnold defined a "dynamic" version of this force and characterized its "effective angle" as the arctangent of the ratio of the normal and shear stresses. The Bilman-Sorine Model modifies the Dahl Model to account for this force's decrease with increasing velocity in the low-velocity regime, an effect discovered by Richard Stribeck. Counterintuitively, it is independent of cross-sectional area by Amontons' Second Law. Amontons' First Law, rediscovered by Charles Coulomb, states that the magnitude of this force is proportional to the normal force. For 10 points, name this force that retards the sliding of two surfaces across each other.

ANSWER: **friction**

003-11-30-05121

21. This author wrote a novel in which Hubert goes crazy after his son's death and creates a phony construction firm staffed by fictional Russian workers, which becomes the "Dead Souls" scandal. In that book the nun Sister Rahel befriends Leni Pfeiffer. The title character of another of his novels is heartbroken when his lover Maria Derkum marries Prelate Zupfner. This author of *Group Portrait with Lady* wrote a novel in which Johanna breaks out of an asylum on a mission to shoot the gym teacher Old Wobbly. The destruction of St. Anthony's Abbey abbey is a plot point in his novel about the Faehmel family. For 10 points, name this German author of *The Clown* and *Billiards at Half-Past Nine*.

ANSWER: Heinrich Boll

040-11-30-05122

22. One ruler of this name signed the Treaty of Senlis with Charles VIII and married off his daughter and grandson to Ladislaus II and Sigismund I. That figure lost his commander Heinrich von Fürstenberg on the battlefield of Dornach after the Gemeiner Pfennig tax portion of his Imperial Reform did not sit well with the Swiss. An abortive rescue attempt of another ruler with this name was led by Felix Salm-Salm; that ruler had his navy circumnavigate the globe under the Novara Expedition and married the daughter of King Leopold I of Belgium, later christened Carlota. A marriage of his son Philip to Joanna of Castile enabled a Holy Roman Emperor of this name to expand the Hapsburg line to Spain. For 10 points, identify this name also shared by an assassinated Emperor of Mexico.

ANSWER: **Maximilian** [prompt on **Max**]

020-11-30-05123

23. One of these enzymes associates with a donut-shaped dimer known as the sliding clamp, made up of two beta subunits of its holoenzyme. Another of these enzymes, when cleaved by subtilisin, produces a C-terminal fragment known as the Klenow fragment. Arthur Kornberg discovered the first of these enzymes used in Sanger sequencing. The synthesis of two "bypass" ones is induced by the SOS response, and one of those forms a namesake mutasome that incorrectly adds guanine opposite a thymine residue about half as often as it correctly adds adenine. For 10 points, name this family of enzymes that aids in DNA replication by pairing the template strand's nucleotides to free nucleotides, one of which from *Thermus aquaticus* is used in PCR.

ANSWER: **DNA polymerase** [or **Pol**; prompt on **polymerase**]



1. This king supported his predecessor Richard II's siege of Vilnius. For 10 points each:

[10] Name this first Lancastrian king, who defeated the Earl of Northumberland at Bramham Moor and whose son won the Battle of Agincourt.

ANSWER: Henry IV

[10] Henry IV quashed the fifteen year uprising of this enigmatic Welsh hero.

ANSWER: Owen **Glendower** [or Owain **Glyndwr**]

[10] This Northymberland noble joined Owen's rebellion, but was defeated when he took an arrow to the mouth at the Battle of Shrewsbury.

ANSWER: Henry Hotspur Percy [or Harry Hotspur]

015-11-30-05201

2. Characters in this opera include the painter Marcello and the singer Musetta, who live in poverty in a garret. For 10 points each:

[10] Name this Puccini opera about the lives of poor artists in Paris.

ANSWER: La **Boheme**

[10] This seamstress and lover of Rodolfo dies of the consumption at the conclusion of *La Boheme*.

ANSWER: Mimi

[10] This philosopher sings a farewell aria to his coat, which he pawns to buy medicine for Mimi.

ANSWER: Colline

015-11-30-05202

3. Thomas Paine's *The Rights of Man* was a response to this man. For 10 points each:

[10] Identify this conservative thinker who wrote Reflections on the Revolution in France.

ANSWER: Edmund Burke

[10] In a book that pairs this concept with beauty, Burke claimed that reason does not affect our passion as extensively as believed. In that book, Burke claims that this concept supplies terror and compulsion into the reader.

ANSWER: sublime

[10] Edmund Burke's *Article of Charge High Crimes and Misdemeanors* attacked this man, the governor General of Bengal. He also criticized him in *The Nawab of Arcot's Debts*.

ANSWER: Warren **Hastings**

033-11-30-05203

4. Fata jumps to her death during her wedding procession to avoid marrying a man she does not love, and the peasant Radisav is impaled on the title object. For 10 points each:

[10] Name this novel in which Mehmed Pasha Sokolli orders Abidaga to construct the title structure at Visegard, the place where he was separated from his mother.

ANSWER: The **Bridge on the Drina** [or The **Bridge Over the Drina**; or Na **Drini Cuprija**]

[10] This Serbian author wrote *The Bridge on the Drina* as part of his Bosnian Trilogy. He wrote about the cutthroat moneylender Raika Radakovich in his novel *The Woman from Sarajevo*.

ANSWER: Ivo Andric

[10] Andric wrote about Sayid Pasha's pet in a novel titled after this animal. George Orwell wrote an essay about "shooting" one of these animals.

ANSWER: elephant

5. It equals the sum from k equals one to infinity of the quantity one over k. For 10 points each:

[10] Name this divergent series.

ANSWER: harmonic series

[10] The harmonic series can be shown to be divergent because the integral of one over k dk equals this function of k, which also does not converge.

ANSWER: <u>natural log</u>arithm [or <u>ln</u>; prompt on <u>log</u>arithm]

[10] This complex generalization of the harmonic series equals the sum from k equals one to infinity of the quantity one over k to the s.

ANSWER: Riemann zeta function [prompt on Riemann function; prompt on zeta function]

003-11-30-05205

6. This levy was first imposed in the U.S. by the Revenue Act of 1861. For 10 points each:

[10] Name this type of tax that was first permanently imposed in the U.S. by the Sixteenth Amendment.

ANSWER: income tax

[10] The income tax had previously been ruled unconstitutional in this 1895 case. Decided during the Fuller court, it struck down elements of the Tax Act of 1894.

ANSWER: **Pollock** v. Farmers' Loan and Trust Co.

[10] Among the dissenters in *Pollock* was this justice, more notable as the lone dissenter in the *Civil Rights Cases*. His grandson of the same name also served as a Supreme Court justice.

ANSWER: John Marshall Harlan

064-11-30-05206

7. One method to compute this quantity is to draw a circle around the atom in question and count the number of electrons enclosed within. For 10 points each:

[10] Identify this parameter that assumes that electrons are shared equally in a covalent bond and is computed by taking the number of valence electrons, subtracting the lone pair electrons, and subtracting half of the number of bonds.

ANSWER: formal charge

[10] Formal charge does not explain the distribution of electrons about an atom very well. This physicist, who described the linear combination of atomic orbitals, had better ideas. He also described a set of rules to calculate the effective nuclear charge.

ANSWER: John Clarke Slater

[10] Slater's rules for effective nuclear charge, when applied to [d] and [f] group atoms, sum the contributions of the principal quantum number and this one, whose permissible values range from 0 to n-1.

ANSWER: <u>azimuthal</u> quantum number [or orbital <u>angular momentum</u> quantum number; or <u>l</u>; prompt on "second quantum number"]

- 8. In this work, the author claims that certain people have gyroscopes metaphorically implanted in them, while another group has an inner radar. For 10 points each:
- [10] Name this book, primarily written by David Riesman, that classifies people as inner-directed or other-directed.

ANSWER: The Lonely Crowd

[10] Riesman also wrote a "critical interpretation" of this earlier American thinker, who argued that businessmen deliberately sabotage production to keep prices high in *The Theory of Business Enterprise*.

ANSWER: Thorstein Veblen

[10] In *The Theory of the Leisure Class*, Veblen argued that man's innate drive for increased status caused people to perform this type of waste and consumption instead of accumulating wealth privately.

ANSWER: **conspicuous** [or clear-knowledge equivalents such as "performed where other people can see it"]

064-11-30-05208

9. Name some Hawaiian islands, for 10 points each.

[10] This island, also known as The Gathering Place, is home to Honolulu as well as Pearl Harbor.

ANSWER: Oahu

[10] This island is separated from Oahu by the Kaiwi Channel. It is famous for being home to Father Damien's leper colony.

ANSWER: Molokai

[10] This island, nicknamed The Forbidden Isle, is the smallest of the inhabited islands of Hawaii.

ANSWER: Niihau

024-11-30-05209

10. He signed the Treaties of Velasco with Texas president David Burnet after losing to Sam Houston at San Jacinto. For 10 points each:

[10] Name this one legged Mexican general who led the country as president or dictator off and on from 1833 to 1855.

ANSWER: Antonio de Padua María Severino López de Santa Anna y Pérez de Lebrón

[10] Santa Anna got his start backing this emperor, who designed the flag of Mexico and ruled briefly from 1822 to 1823.

ANSWER: Augustin de **Iturbide**

[10] Santa Anna was finally overthrown by Benito Jaurez and this man, who served as president for three years until he was replaced by Jaurez.

ANSWER: Ignacio Comonfort

- 11. James Beck was among the most vocal critics of a long-term restoration project; those criticisms ultimately led to fifteen petitions in 1987 from American artists urging that restoration to stop. For 10 points each:
- [10] Along with Leonardo's *Last Supper*, the frescoes created by Michelangelo for this building were at the center of the controversy. Those frescoes include *The Creation of Adam* and *The Last Judgment*.

ANSWER: <u>Sistine Chapel</u> [do not accept "ceiling of the Sistine Chapel," as *The Last Judgment* is a wall fresco]

[10] This artist's depiction of the calling of Peter and Andrew was among the restored works. Nicknamed because of his goldsmith father, this artist was known for inserting portraits of patrons into religious scenes like his fresco cycle of the life of Mary and St. John the Baptist for the choir of Santa Maria Novella.

ANSWER: Domenico Ghirlandaio

[10] Among the artists who signed those petitions was this member of the New York School best known for a series of *Elegies to the Spanish Republic*.

ANSWER: Robert Motherwell

003-11-30-05211

- 12. This group of cells is broadly divided into granulocytes and agranulocytes. For 10 points each:
- [10] Name this component of the blood, sometimes referred to as leukocytes, which contain immune cells like neutrophils and macrophages.

ANSWER: white blood cells

[10] Among the components of white blood cells is this type of cell that releases histamine during an allergic response.

ANSWER: <u>mast</u> cell [or <u>mastocyte</u>; or <u>labrocyte</u>]

[10] Another type of white blood cell is this one, which contains major basic protein, reacts to parasitic pathogens, and is stained by a certain type of namesake fluorescent red dye.

ANSWER: eosinophil

064-11-30-05212

- 13. The central event of this work is scheduled to occur on a woman's 22nd birthday. For 10 points each:
- [10] Name this play by Garcia-Lorca in which Leonardo Felix kills and is killed by a romantic rival.

ANSWER: Blood Wedding or Bodas de Sangre

[10] In *Blood Wedding* "The Mother" constantly repeats a lullaby about this type of animal who is afraid of water. Steinbeck wrote about one named Gabilan.

ANSWER: **horse** [prompt on pony]

[10] This play completes Garcia Lorca's rural trilogy; in it, the title character strangles her husband to death due to her inability to have a child.

ANSWER: Yerma

- 14. Its beginning was heralded by the Secret Speech, which ushered in the process of de-Stalinization. For 10 points each:
- [10] Name this period of liberalization within the Soviet Union. It began in the mid-1950s and saw the release of political prisoners and the elimination of most publishing restrictions.

ANSWER: the **Thaw**

[10] The Thaw occurred during this Premier's time in office. His decision to send nuclear weapons to Cuba nearly sparked a war with the United States.

ANSWER: Nikita Sergeyevich Krushchev

[10] The Thaw is widely considered to have ended when two writers were convicted of publishing anti-Soviet material in 1966 and sentenced to hard labor. Name either.

ANSWER: Andrei Sinyavsky or Yuli Daniel

100-11-30-05214

- 15. The skeleton of Don Alexandro Aranda is displayed as a ship's figurehead in this work. For 10 points each:
- [10] Name this story in which Captain Amaso Delano is puzzled by the title captain's behavior after boarding the merchant ship the San Dominick only to learn that slaves had taken command of the ship.

ANSWER: "Benito Cereno"

[10] "Benito Cereno" was written by this American author who wrote about a man who constantly repeats "I would prefer not to" work in his short story "Bartleby, the Scrivener."

ANSWER: Herman Melville

[10] This slave leads the revolt on board the San Dominick and constantly stands next to Benito Cereno while he is talking with Delano to prevent him from revealing the rebellion.

ANSWER: Babo

064-11-30-05215

- 16. These idealized objects absorb all electromagnetic radiation. For 10 points each:
- [10] Name these objects whose emission is described by Planck's law.

ANSWER: blackbody

[10] This law gives the maximum intensity of a blackbody for a given temperature.

ANSWER: Wien's displacement law

[10] The black body spectrum was derived by assuming photons are in this sort of system. The eigenenergies of this system are h-bar squared times the wavenumber squared divided by the quantity of two times the mass.

ANSWER: <u>particle in a box</u> [accept <u>infinite potential well</u>; accept <u>infinite square well</u>; prompt on partial answers]

107-11-30-05216

- 17. This novel is narrated by a man living in a replica of the Alhambra in Andalusia who is the last remaining member of the Portuguese de Gama-Zogoiby family. For 10 points each:
- [10] Identify this 1997 novel, the first written by the author after a fatwa was issued against him for his previous work.

ANSWER: The Moor's Last Sigh

[10] The Moor's Last Sigh is a novel by this Indian author of The Satanic Verses.

ANSWER: Salman Rushdie

[10] This is the name of the protagonist of Rushdie's magnum opus, *Midnight's Children*. He is exchanged at birth by his nurse, Mary Pereira.

ANSWER: Saleem Sinai [prompt on Sinai]

- 18. Answer some questions about mysticism for 10 points each.
- [10] This field of Jewish mysticism calls the essence of God "Ein Sof," which has ten emanations called Sefirot.

ANSWER: Kabbalah

[10] A saint of this name from Siena described her "mystical marriage" to Jesus. A saint of this name from Alexandria was condemned to death on a wheel.

ANSWER: Catherine

[10] This Armenian mystic developed the "fourth way" and accumulated a group of notable followers including Jean Toomer and Katherine Mansfield.

ANSWER: George Gurdjieff

015-11-30-05218

- 19. This composer wrote an opera about Christopher Columbus and a trilogy of mini-operas based on the stories of Europa, Ariadne, and Theseus. For 10 points each:
- [10] Name this composer of the piano suite Saudades do Brazil and the ballet The Ox on the Roof.

ANSWER: Darius Milhaud

[10] Milhaud is probably best known for this ballet, which draws its material from African mythology. This ballet contains many jazz-inspired melodies and idioms.

ANSWER: La <u>creation du monde</u> [or The <u>creation of the world</u>]

[10] Milhaud was a member of this numerically-titled group of French composers, which also included Arthur Honegger, Francis Poulenc, and Germaine Tailleferre.

ANSWER: Les six or the Groupe des six

095-11-30-05219

- 20. This story is the namesake of a collection that also includes the author's "The Decline and Fall of Frankie Buller" and "The Disgrace of Jim Scarfedale." For 10 points each:
- [10] Identify this short story where the narrator intentionally loses a race after being sent to a Borstal.

ANSWER: "The Loneliness of the Long Distance Runner"

[10] "The Loneliness of the Long Distance Runner" was written by Alan Sillitoe, a member of this British literary group. Their name comes from a review of John Osborne's play *Look Back in Anger*.

ANSWER: the **Angry Young Men**

[10] Premiering a year after *Look Back in Anger*, this other John Osborne play sees Archie, the son of Billy Rice, do a rendition of the song "Why Should I Care?" Several scenes are set at a music hall.

ANSWER: The Entertainer

094-11-30-05220

- 21. Name these saints of the early church for 10 points each.
- [10] This bishop of Hippo described his youthful dabbling in Manichaeism and his relationship with his mother Monica in his *Confessions*.

ANSWER: Saint Augustine of Hippo

[10] A saint of this name from Alexandria is considered a founder of monasticism. He is praised for resisting several temptations while wandering in the desert.

ANSWER: Saint Anthony

[10] This mother of Constantine the Great was credited with finding the True Cross while building a church in Jerusalem.

ANSWER: Saint Helena